

**REMARKS**

The applicant has carefully reviewed the Office Action of June 17, 2003. In response, the applicant amends original independent claim 1 as well as dependent claims 4, 12, 15 and 17 so that they all more clearly patentably distinguish over the prior art. Additionally, new claims 21-24 are presented for the review and approval of the Examiner. New claims 22 and 24 substantially correspond to original claims 9 and 10 but are rewritten to present those claims in independent form. With this rewriting, original claims 9 and 10 are canceled without prejudice.

In addition, claims 6 and 7 are amended in order to overcome the rejection under 35 U.S.C. § 112. More specifically, claim 6 now clearly provides that aramid fibers are substituted for the polyethylene terephthalate fibers. Support for this is found in the specification at, for example, page 2 paragraph 19 of the specification.

While the applicant feels the language of original claim 7 was in no way indefinite, the applicant has chosen to rephrase that language to provide that the polyethylene terephthalate fibers do not melt below 220°C. This clarification is consistent with the Examiner's understanding of this claim and mirrors the language the Examiner utilized in the Office Action.

Claims 1-4, 6, 8, 11, 12, 15 and 16 very clearly patentably distinguish over U.S. Patent 3,622,445 to Heidweiller. As amended, claim 1 reads on a wet-laid nonwoven reinforcing mat comprising (a) a base web including about 10 to about 50 percent by weight glass fibers and about 50 to about 90 percent by weight polyethylene terephthalate fibers; (b) polyvinyl alcohol in an amount of about 16 to about 35 percent of the combined weight of the glass fibers and the polyethylene terephthalate

fibers; (c) a secondary binder in an amount of about 12 to about 30 percent of the combined weight of the glass fibers, polyethylene terephthalate fibers and polyvinyl alcohol and (d) wherein the combined total of the polyvinyl alcohol and secondary binder in the reinforcing mat is greater than 50 percent by weight.

In contrast to the invention set forth in present claim 1, it is the Examiner's position that the Heidweiller patent discloses a glass fiber web including from 50 to 100 percent by weight glass fibers and 10 to 50 percent by weight polyethylene terephthalate fibers. Accordingly, the Heidweiller patent does not teach or suggest component "(a)" of the present invention. In fact, the Heidweiller patent teaches away from utilizing the percent weight of glass fibers and polyethylene terephthalate fibers set forth in present claim 1.

In addition, the Heidweiller patent teaches providing a binder that is between 5 and 50 percent of the total weight of the web. This is in contrast to component "(d)" and, in fact, Heidweiller once again actually teaches away from the claimed formulation.

The standard for lack of novelty or "anticipation" under 35 USC § 102 is one of strict identify. As stated by the Court of Appeals for the Federal Circuit in Hybritech, Inc. v. Monoclonal Antibodies, Inc., 231 USPQ 81, 90 (Fed. Cir. 1986), "It is axiomatic that for prior art to anticipate under Section 102 it has to meet every element of the claimed invention. . . ." As noted above, the prior art does not meet elements (a) and (d) of amended claim 1. Accordingly, the Heidweiller patent does not provide a proper basis for the rejection of this claim under 35 USC § 102.

It should further be noted that the Heidweiller patent also does not provide any appropriate basis for the rejection of claim 1 under 35 USC §

103. More specifically, there is no teaching or motivation expressed anywhere in the Heidweiller patent to lead one skilled in the art to alter the percentages of glass fibers, polyethylene terephthalate fibers and polyvinyl alcohol binder provided in the mat from those explicitly taught in the Heidweiller patent to those explicitly now claimed in amended claim 1 of the present application. Accordingly, claim 1 very clearly patentably distinguishes over the Heidweiller patent and should be allowed.

Claims 2-4, 6, 8, 11, 12, 15 and 16 dependent from claim 1 and rejected on the same grounds are equally allowable for the same reasons. Further, each of these claims include additional limitations that provide added support for their allowability. For example, amended claim 4 provides that the polyethylene terephthalate fibers have a diameter of from about 6 to about 12 microns and a length of from about 4 to about 25 mm. In sharp contrast, the Heidweiller patent teaches the utilization of pile fibers of from 1.5 to 50 denier. In accordance with the Examiner's own calculations as set forth on page 4 of the Office Action, the Heidweiller patent teaches utilizing polyethylene terephthalate fibers having a minimum diameter of 13.2 microns. Thus, the Heidweiller et al. patent not only fails to teach or suggest the utilization of polyethylene terephthalate fibers having a diameter of from about 6 to about 12 microns as set forth in claim 4 but, in fact, the Heidweiller patent actually teaches away from the presently claimed invention. The utilization of fibers of smaller diameter, outside the range disclosed in the Heidweiller patent, is strongly preferred in the present invention in order to provide the desired surface flatness and soft touch for the product.

As a further example, claim 12 identifies the secondary binder as being selected from a group consisting of acrylic, ethylene vinyl acetate and

any mixtures thereof. Accordingly, the invention as defined by claim 12 includes a mixture of binders comprising polyvinyl alcohol in combination with a secondary binder of acrylic, ethylene vinyl acetate and any mixtures of acrylic and ethylene vinyl acetate. Such a mixture of binders is simply neither taught nor suggested in the Heidweiller patent.

It should also be appreciated that claims 5 and 7 clearly patentably distinguish over the Heidweiller patent. More specifically, as acknowledged by the Examiner on page 3 of the Office Action, the Heidweiller patent teaches providing a web having glass fibers present in a proportion of 50 to 100 % and pile fibers such as polyethylene terephthalate fibers present in a proportion of from 10 to 50%. These ranges fall outside of those explicitly set forth in element (a) of claim 1 from which claims 5 and 7 depend. Further, the Heidweiller patent explicitly teaches providing a binder in a proportion of from 5 to 50% of the total weight of the web. As set forth in element (d) of claim 1, the polyvinyl alcohol and secondary binder in the reinforcing mat of the present invention are provided at greater than 50% by weight. Thus, once again, the cited reference to Heidweiller clearly teaches away from the present invention. It is therefore foreseen that the Heidweiller patent explicitly teaches using a different amount of glass fibers, a different amount of polyethylene terephthalate fibers and a different amount of polyvinyl alcohol and secondary binder than that set forth in claim 1 from which claims 5 and 7 depend. Further, it should be appreciated that there is no teaching or motivation in Heidweiller to lead one skilled in the art to modify any one of these ingredient proportions much less all three in order to arrive at the claimed invention. Accordingly, claims 5 and 7 clearly patentably distinguish over the art and should be allowed.

Claims 13, 14, 17 and 18 also very clearly patentably distinguish over the Heidweiller patent. More specifically, claim 13 specifically provides that the base web includes glass fibers in an amount of about 25 to 40 weight percent. As noted above, the Heidweiller patent explicitly teaches providing glass fibers at a percentage above 50 percent. Further, the Heidweiller patent provides no teaching or motivation to provide glass fibers at a lower weight percentage as set forth in present claim 13. Thus, claim 13 very clearly patentably distinguishes over this art and should be allowed.

Similarly, claim 14 provides that the base web includes polyethylene terephthalate fibers at a weight percentage of about 60 to about 75. In contrast, the Heidweiller patent explicitly teaches providing pile fibers at a weight of from 10 to 50 percent. Clearly the Heidweiller patent explicitly teaches away from the weight percentages set forth in claim 14. Further, it must be appreciated that the Heidweiller patent provides no teaching or motivation that would lead one skilled in the art to modify the pile fiber composition to a level above the 50 percent maximum explicitly set forth and claimed in that patent. Accordingly, claim 14 very clearly patentably distinguishes over the prior art and should be formally allowed.

Similarly, claim 17 provides that the base web includes glass fibers in an amount of about 25 to about 40 percent by weight and polyethylene terephthalate fibers in an amount of about 60 to about 75 percent by weight. Both of these percentages are completely outside the ranges taught and suggested in the Heidweiller patent. Claim 18 which depends from claim 17 also patentably distinguishes on the same grounds.

Claim 19 which depends from claim 18 also very clearly patentably distinguishes over the Heidweiller et al. patent even when considered in

combination with U.S. Patent 6,267,843 to Helwig et al. The Helwig et al. patent is cited for its disclosure of a mat incorporating polyvinyl alcohol binder fibers which, according to the Examiner's calculations, have a diameter of about 12 microns. While the secondary reference to Helwig et al. may very well teach the utilization of polyvinyl alcohol fibers of 12 microns in a mat, the secondary reference does nothing to address the shortcomings noted above with respect to the Heidweiller patent. Stated another way, whether considered singularly or in combination, there is no teaching or motivation in the Heidweiller and/or Helwig et al. references to lead one skilled in the art to formulate the invention set forth and claimed in claim 19 which also incorporates the subject matter of claims 18, 17 and 1 of the present invention. Accordingly, claim 19 patentably distinguishes over the art and should be allowed.

Claim 20 very clearly patentably distinguishes over the Heidweiller patent when considered in combination with U.S. Patent 5,800,675 to Kinsley, Jr. The Kinsley, Jr. patent is cited for its disclosure of a paper-based product including a particulate binder formed from polyvinyl alcohol powder. It is unclear to the applicant how a teaching in Kinsley, Jr. applicable to paper-based products is in any way relevant to the present invention. Such a teaching certainly does not seem to suggest to one skilled in the art to utilize polyvinyl alcohol in powder form having a particle size of from about 50 to about 250 microns as set forth in claim 20 in a wet-laid nonwoven reinforcing mat including from about 10 to about 50 percent by weight glass fibers and from about 50 to about 90 percent by weight polyethylene terephthalate fibers as set forth in claim 1. Further, the Kinsley, Jr. patent absolutely fails to address the shortcomings noted above with respect to the Heidweiller patent.

More specifically, it should be appreciated that the present invention is specifically drawn to a wet-laid nonwoven reinforcing mat for reinforcing vinyl flooring capable of withstanding compressive loading caused by contraction of wood flooring during certain atmospheric conditions. Neither of the cited references relate to such a product and, accordingly, they do not consider the important characteristics to be provided in such a product. Since neither of the cited references to Heidweiller or Kinsley, Jr. even consider or address the issues presented before the present applicants in the development of their invention, it is unlikely one skilled in the art would consider them to teach anything relevant with regard to the technology. Thus, it should be appreciated that the present rejection must fail and that claim 20 patentably distinguishes over the art and should be allowed.

New claims 21-24 also very clearly patentably distinguish over the art and should be allowed. Claim 21 explicitly provides that the secondary binder is also polyvinyl alcohol. Claim 21 depends from claim 20 and when the two are considered in combination, the claimed reinforcing mat includes from about 10 to about 50 percent by weight glass fibers and from about 50 to about 90 percent by weight polyethylene terephthalate fibers. Additionally, the combined total of polyvinyl alcohol in the reinforcing mat is greater than 50 percent by weight. The Heidweiller et al. patent teaches away from all three of these aspects of the claimed invention and, accordingly, claim 21 should be found to patentably distinguish over the prior art.

New independent claim 22 reads on a wet-laid nonwoven reinforcing mat comprising (a) a base web including about 10 to about 80 percent by weight glass fibers, and about 20 to about 90 percent by weight

polyethylene terephthalate fibers; (b) polyvinyl alcohol in an amount of about 5 to about 35 percent of the combined weight of the glass fibers and the polyethylene terephthalate fibers; and (c) a secondary binder in an amount of about 10 to about 30 percent of the combined weight of the glass fibers, polyethylene terephthalate fibers and polyvinyl alcohol wherein the polyvinyl alcohol is in a fiber form having a diameter of about 6 to about 20 microns and a length of about 4 to about 12 mm.

The primary reference to Heidweiller fails to teach or suggest such a reinforcing mat incorporating polyvinyl alcohol in fiber form having a diameter of about 6 to about 20 microns and a length of about 4 to about 12 mm. Thus, the Heidweiller patent fails to provide a proper basis for the rejection of new claim 22 when considered alone. While the Examiner argues that the secondary reference to Helwig et al. refers to a web incorporating polyvinyl alcohol having a fiber diameter of 12 microns, the Helwig et al. patent does not provide the necessary motivation to lead one skilled in the art to provide such a polyvinyl alcohol binder in a wet-laid nonwoven reinforcing mat as set forth in claim 22. Accordingly, claim 22 should be allowed.

New claim 23 depends from claim 22 and further provides that the polyvinyl alcohol fibers have a diameter of about 6 to about 11 microns. In the Office Action the Examiner notes that the Helwig et al. patent refers to polyvinyl alcohol fibers having a diameter of as little as 12 microns. Thus, it does not appear that the diameter of the polyvinyl alcohol fibers set forth in claim 23 is either taught or suggested in the prior art cited by the Examiner. Further, there is no motivation in either of the references for one skilled in the art to utilize different diameter particles than that explicitly



taught in the Helwig et al. patent. Accordingly, claim 23 should be allowed.

Finally, new independent claim 24 also patentably distinguishes over the art. More specifically, new claim 24 references a reinforcing mat of glass fibers and polyethylene terephthalate fibers as well as polyvinyl alcohol. The polyvinyl alcohol is in a powder form having a particle size of from about 50 to about 250 microns. The primary reference to Heidweiller et al. fails to teach or suggest the utilization of polyvinyl alcohol in powder form of the stipulated particle size in a reinforcing mat of the type claimed. The secondary reference to Kinsley, Jr. teaches the use of polyvinyl alcohol in powder form in a paper based product but not the reinforcing mat as claimed. Together, neither the primary reference to Heidweiller and the secondary reference to Kinsley, Jr. teach or suggest the concept of utilizing polyvinyl alcohol in powder form having a particle size of about 50 to about 250 microns in a reinforcing mat of glass fibers and polyethylene terephthalate fibers. Accordingly, the claim patentably distinguishes over the art and should be allowed.

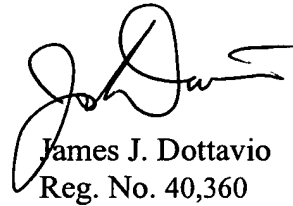
In summary, all the claims patentably distinguish over the prior art and should be formally allowed. Upon careful review and consideration it is believed the Examiner will agree with this proposition. Accordingly, the early issuance of a formal Notice of Allowance is earnestly solicited.

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If any fees are required pertaining to this response, Applicant requests that they be charged to Deposit Account No. 50-0568.

Respectfully submitted,

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